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PATENT



Practitioner's Docket No. 00-423

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Anders, et al.

Application No.: 09/909,913                      Group No.: 1761  
Filed: 07/20/2001                                  Examiner: Drew A. Becker  
For: Liquid Infusion and Tenderization Process, Apparatus, and Product

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TRANSMITTAL OF APPEAL BRIEF  
(PATENT APPLICATION--37 C.F.R. § 41.37)

1. Transmitted herewith is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on July 11, 2005.
2. STATUS OF APPLICANT

This application is on behalf of a small entity.

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***  
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Carol Welch  
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(type or print name of person certifying)

\* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 41.20(b)(2), the fee for filing the Appeal Brief is:

small entity \$250.00

**Appeal Brief fee due \$250.00**

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

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Extension fee (if any) \$ 0.00

**TOTAL FEE DUE \$250.00**

6. FEE PAYMENT

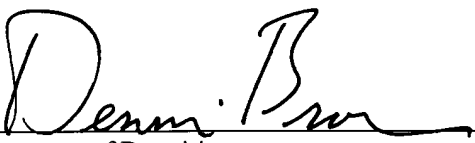
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Customer No.: 22206

  
\_\_\_\_\_  
Signature of Practitioner  
Dennis D. Brown  
FELLERS, SNIDER, BLANKENSHIP,  
BAILEY & TIPPENS, P.C.  
321 South Boston, Suite 800  
Tulsa, OK 74103-3318

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of:

Gary H. ANDERS

Daniel W. KING

Serial No.: 09/909,913

Filed: 07/20/2001

For: LIQUID INFUSION AND  
TENDERIZATION PROCESS,  
APPARATUS, AND PRODUCT

Group No.: 1761

Examiner: Drew E. Becker

Confirm. No. 2400

**APPELLANTS' BRIEF UNDER 37 C.F.R. § 41.37**

**Mail Stop Appeal Brief – Patents**  
**Commissioner for Patents**  
**P. O. Box 1450**  
**Alexandria, VA 22313-1450**

Pursuant to the requirements of 37 CFR § 41.37, this brief is submitted, along with the accompanying fee set forth in § 41.20(b)(2), within two (2) months of the date of Appellants' Notice of Appeal filed July 11, 2005. This brief is intended to fully comply with all of the requirements set forth in § 41.37.

## **I. REAL PARTY OF INTEREST**

The real party in interest in this application is:

AK Food Technology, Inc.  
160 East Randall Wobbe Lane  
Springdale, Arkansas 72764

The Assignment of this application to AK Food Technology, Inc. was recorded in the United States Patent and Trademark Office at Reel 012048, Frame 0010 on July 20, 2001.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no prior or pending appeals, interferences, or judicial proceedings known to Appellants, the Appellants' legal representative, or the assignee which may be related to, directly affect, or be directly affected by or have a bearing on the Board's decision in this appeal.

## **III. STATUS OF CLAIMS**

This application was filed on July 20, 2001 and claims the benefit of Provisional Patent Application Serial No. 60/219,895, filed July 21, 2000. The application originally contained claims 1-91. In a Response and Preliminary Amendment filed on January 21, 2004, claims 51-81 were cancelled pursuant to an Examiner's restriction requirement and new claims 92-103 were added. Claims 21-26, 43-50, and 89-91 were cancelled in an Amendment and Response filed August 16, 2004, pursuant to another restriction requirement. Claims 82-88 were cancelled in an Amendment and Response filed February 24, 2005.

Consequently, claims 1-20, 27-42, and 92-93 are currently pending in this application. Of these claims, claims 8, 12, 13, 28, 35, 36, 95, 96, and 102 have been withdrawn from consideration as being directed to a non-elected species.<sup>1</sup> The claims which are the subject of this appeal are therefore claims 1-7, 9-11, 14-20, 27, 29-34, 37-42, 92-94, 97-101, and 103.

Pursuant to 37 C.F.R. § 41.37 (c)(1)(viii), an appendix containing a copy of the claims involved in this appeal is provided at the end of this brief.

#### **IV. STATUS OF AMENDMENTS**

No amendments were filed in this case subsequent to final rejection.

#### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The independent claims involved in this appeal are claims 1, 27, 92, and 101. Each of these claims calls for a method of treating food items having muscle protein wherein the method comprises the step of pressing the food items using a pliable material 10, 154, and/or 156 which conforms to and at least partially surrounds the food items during pressing. Independent claim 27 and various other claims on appeal call for pressing the food items between a first layer 10, 154 of pliable material having a first surface and a second layer 10, 156 of pliable material having a second surface. Claim 27 further states that the surface of the first layer 10, 154 and the surface of the second layer

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<sup>1</sup> In an Office action mailed July 15, 2004, the examiner acknowledged that Appellants' pending claims 1-7, 10-11, 27, 30-34, 82, 92-94, and 101 are generic to the non-elected species of claims 8, 12-13, 28, 35-36, 95-96, and 102. Appellants also note that, contrary to the examiner's statement in the final Office action mailed April 15, 2005, the Appellants' "non-election" of species claims 8, 12-13, 28, 35-36, 95-96, and 102 was made without traverse in Appellants' response of August 16, 2004.

10, 156 conform to and at least partially surround the food items in the pressing step. (6:6-8:20, 9:16-21, 14:15-16, 22:20-23:12, and 24:1-8.)

According to *Webster's Third New International Dictionary*, the word "conform" means to "adapt" and "to have the same shape, outline, or contour." In accordance with the ordinary meaning of the word "conform," the specification of the patent application states that the surface of the pliable material used in the pressing step "can conform to the shape of the material [i.e., the food item] and surround that shape during pressing." (6:7-9) Such shaping minimizes hard surface contact points in high stress areas that may damage parts of the product (6:9-11) and provides an effective method of tenderization "which does not seriously. . .disturb the overall structure of the product." (5:11-17, 20:6-12) When combined with a liquid infusion step as called for in many of the dependent claims on appeal, the inventive process can provide liquid infusion/uptake levels of up to 50% or more by weight based upon the original weight of the product. (10:15-17) The inventive system also significantly improves water binding within the product and product yield and prevents fat and other desirable components from being forced out of the product. (10:12-22)

The amount of pressure applied to the food items by the pliable material 10, 154, and/or 156 will preferably be either (a) at least 2 psig as called for in independent claim 92 or (b) a pressure in the range of from about 2 about 120 psig as called for in claims 27 and 101. (7:11-13) For boneless product pieces, the amount of pressure applied by the pliable material 10, 154, and/or 156 will preferably be in the range of from about 2 to about 100 psig. (25:11-17)

Independent claim 1 states that the food items treated in accordance with the inventive method comprises muscle protein fibers 12 which are at least partially covered by a collagen protein layer 14. Claim 1 further states that pressure is applied to the food items using the pliable material 10, 154, and/or 156 in a manner effective for rupturing the collagen protein layer 14 sufficiently to form an opening 17 therethrough. (6:18-7:4, 12:9-14, 19:17-22, 21:6-14, and FIG.S 4-6)

Concerning the various additional features called for in Appellants' dependant claims, the first and/or second layers 10, 154, and/or 156 of pliable material used in the pressing step can be at least ½ inch thick. (17:15-18) If desired, the surfaces of the first and second layers 10, 154, and/or 156 of pliable material can completely surround the food items during the pressing step. (16:13-15 and 22: 20-23:12) In addition, pressure can be applied to the food items more than once using the pliable material 10, 154, and/or 156. (11:4-10, 15:2-9, 20:13-21: 5, and 25:18-26:6)

In one claimed embodiment of the inventive method, the food items are pressed between a first layer of pliable material 10 which is a covering for a plunger 8 and a second layer of pliable material 10 which covers the interior of a corresponding cavity 6 wherein the plunger is received. (8:9-20, 12:1-8, 15:5-15:9, 17:10-18:17, and FIGS. 1-3)

In another claimed embodiment of the inventive method, the food items are pressed between a first continuous belt 154 comprising a first layer of pliable material and a second continuous belt 156 which comprises a second layer of pliable material. Rollers 158a, 158b, 162a, 162b can be used, for example, to urge the belts 154 and 156 toward each other for pressing the food items. (7:14-8:8, 12:18-21, 21:15-22:19, 23:13-22, and FIGS. 8 and 9)

As indicated above, many of Appellants' dependent claims further call for the step, following pressing, of infusing a treatment liquid 18, 200, 270 into the food items. (8:21-9:15, 12:7-8, 12:15-17, 13:7-8, 26:14-18, 36:10-37:4, and FIGS. 3, 7, and 13) In the infusion step, the food items will preferably be impacted while being moved through the treatment liquid 18, 200, 270. (8:21-9:7, 10:1-5, 12:7-8, 12:15-17, 13:7-8, 32:3-17, and FIGS. 3, 7, and 13) The food items will preferably be at least partially suspended in at least one pound of the treatment liquid 18, 200, 270 per pound of food items. (28:15-22, 29:1-13, and 35:3-8) In one claimed embodiment, the food items are continuously conveyed through the treatment liquid 18 by a submerged conveyor 25. (8:21-9:7, 12:7-8, 12:15-17, 28:15-19, and FIGS. 3 and 7) As the foods items are carried through the treatment liquid 18, they will preferably be impacted by flexible fingers 27. (12:7-8, 12:15-17, 29:7-13, and FIGS. 3 and 7)

In another claimed embodiment, the food items are continuously moved through the treatment liquid by rotating spiral flites 186, 254. (8:8-15, 13:7-8, 29:18-20, and FIGS. 11, 13, and 14) As they are being conveyed through the treatment liquid, the food items are preferably impacted by contacting with at least one rotating paddle 204, 258. (13:7-8, 30:15-31:6, 32:3-17, and FIGS. 10, 13, and 14) The paddle 204, 258 preferably rotates in a direction opposite that of the spiral flites 186, 254 (13:7-8, 30:15-31:6, and FIG. 13)



## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Pursuant to the Examiner's final Office action mailed April 15, 2005, the following are the grounds for rejection presented for review in this appeal.

1. Appellants' claims 1-3, 6-7, and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,467,497, issued to Peterson, et al.
2. Appellants' claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,176,071 issued to Klaassen.
3. Appellants' claims 1-3, 6-7, 9-11, 27, 29, 31-34, 92-94, 101, and 103 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,082,678, issued to Margolis in view of Peterson, et al.
4. Appellants' claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of Peterson, et al. and further in view of U.S. Patent No. 3,663,233, issued to Keszler.
5. Appellants' claims 5 and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of Peterson, et al. and Keszler and further in view of U.S. Patent No. 4,345,514, issued to Morley.
6. Appellants' claims 14, 18, 37, 40, 97, and 99 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of

Peterson, et al. and further in view of U.S. Patent No. 4,657,771, issued to Gould.

7. Appellants' claims 19, 20, 41, 42, and 100 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of Peterson, et al. and Gould and further in view of U.S. Patent No. 5,564,332, issued to Ludwig.
8. Appellants' claims 14-16, 37 and 38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of Peterson, et al. and further in view of U.S. Patent No. 3,347,679, issued to Nordin.
9. Appellants' claims 17, 39, and 98 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Margolis in view of Peterson, et al. and Nordin and further in view of GB 957356.

## **VII. ARGUMENT**

As shown hereinbelow, the claims on appeal call for numerous features which are neither disclosed nor suggested by the prior art cited by the Examiner in the final Office action mailed April 15, 2005. For example, contrary to the requirements of each of Appellants' claims on appeal, none of the prior art references disclose or suggest a method of treating food items comprising the step of pressing the food items using a pliable material which conforms to and at least partially surrounds the food items during the pressing step.

Nor do any of the cited references disclose or suggest: pressing the food items between two layers of pliable material having contact surfaces which conform to and at least partially surround the food items (claims 3-7, 27, 29-34, and 37-42); pressing the food items with a pliable conforming material in a manner effective for forming openings in a collagen protein layer (claims 1-7, 9-11, and 14-20); pressing boneless and other food items with a pliable conforming material at a pressure of at least 2 psig and preferably between about 2 and about 120 psig (claims 9, 27, 29-34, 37-42, 97-100, and 103); pressing food items with a pliable conforming material which completely surrounds the food items (claim 4) and/or is at least ½ inch thick (claim 33); pressing the food items between two continuous belts formed of the pliable conforming material (claims 6, 7, 31, and 32); pressing the food items in a plunger apparatus wherein the plunger and the cavity wherein the plunger is received are each covered with the pliable conforming material (claims 5 and 30); performing more than one application of pressure using the pliable conforming material (claims 10 and 93); infusing a treatment liquid into the food items after pressing the food items with a pliable conforming material (claims 11, 14-20, 34, 37-42, 94, and 97-100); and impacting the food items with flexible fingers while moving food items through a liquid (claims 17, 39, and 98).

Moreover, even if the features and limitations called for in Appellants' claims were somehow collectively disclosed in the numerous disparate prior art references pieced together by the Examiner, there is no teaching or suggestion that these references be combined in the manner relied upon by the Examiner in rejecting any of Appellants' claims under 35 U.S.C. § 103. Rather, as shown below, the cited references clearly teach away from the cited combinations.

**1.0 Appellants' Claims 1-3, 6-7, And 10 Are Not Anticipated By The Disclosure Of Peterson, et al.**

The teaching of Peterson, et al. is completely contrary to all of the requirements and objectives of the invention called for in Appellants' claims. Rather than disclosing or suggesting the step of pressing food items with a pliable material which conforms to and at least partially surrounds the food items, Peterson, et al. disclose only a device and method wherein thick chunks of frozen meat (at between -5°C and -2°C) are literally "mangled" and mashed between a pair of converging conveyor belts to produce thin slices of frozen meat having a thickness of 5-8 mm, more preferably 2-3 mm. (See, e.g., Peterson, et al.: Abstract; Col. 1: 27-54; Col. 2: 47-64; and Col. 5: 7-33) As discussed throughout the Peterson, et al. patent, it is critical to the Peterson, et al. method of mangling and mashing frozen meat chunks that the opposing belts of the Peterson, et al. device form and maintain a channel-shaped space of flat rectangular cross section and of decreasing height in the direction of conveyance. (See, e.g., Abstract; Col. 1:27-38; Col. 1:42-54 and Col. 2:4-14) This is also illustrated in the drawing of the Peterson, et al. patent wherein large blocks of frozen meat 18 are mashed between converging belts 6 and 12 to form completely flat slices 19. In addition, the surfaces of the belts must allow the outward expansion of the thin slice product during the mangling process. (See, e.g., Col. 3:28-31)

Consequently, the converging belts of the Peterson, et al. device cannot be formed of a pliable material which conforms and adapts to the shape of the large frozen chunks of meat which are fed to the Peterson, et al. device. Rather, in order to mangle and mash the chunks of frozen material to produce very thin flat slices, the belts of the Peterson, et

al. device must completely resist any such conformation. Stated another way, it is the chunks of frozen material which must be forced to conform to the converging flat rectangular channel of the Peterson, et al. device, not vice versa.

In spite of the clear teaching, requirements, and objectives of Peterson, et al., the Examiner argues in the final Office action mailed April 15, 2005 that, because Peterson, et al. indicate that the belts of their device can be formed of a rubber or plastic material, the belts must therefore inherently conform to the shape of the large frozen chunks of meat which are fed to the Peterson, et al. device. However, in making this argument, the Examiner is apparently under the mistaken impression that all “rubber or plastic” materials used in the art are soft and pliable and will conform to the shape of an article (e.g., a frozen chunk of meat) when pressed against it. This is clearly not the case.

Moreover, the Examiner has taken the reference to rubber or plastic in Peterson, et al. completely out of context. Peterson, et al. expressly state at Col. 2, lines 33-36 that: “The conveying belts 6 and 12 may be made of any material suitable for the purpose and easily capable of being sterilized, for example, rubber or plastic which has been reinforced with textile or wire cloth.” Thus, although certain types of rubber or plastic may be suitable for forming the converging belts 6 and 12 of the Peterson, et al. device, those skilled in the art will clearly understand, and are expressly informed, that the particular material chosen must, first and foremost, be suitable for accomplishing the purpose of the Peterson, et al. invention (i.e., forcing chunks of frozen meat to conform to the diverging flat rectangular cross section of the channel-shaped space between the Peterson, et al. belts so that the frozen chunks are mangled and mashed into completely flat, thin slices). In addition, the only types of rubber or plastic materials suggested by

Peterson, et al. as possibly being acceptable for this service are materials which include significant reinforcements.

In further contradiction to the express teaching of Peterson, et al., the Examiner also argues that a flexible or pliable belt would be beneficial to Peterson, et al. by allowing passage of large meat pieces which otherwise would have clogged the device. However, the Peterson, et al. patent contains no such teaching or suggestion. Rather, Peterson, et al. expressly teach at column 3, lines 7-9 that the gap at the input end of channel 14 is adjustable for adaptation to the thickness of meat slice 18. Moreover, the use of a pliable material which conforms to the shape of the input pieces would completely confound the entire purpose and objective of the Peterson, et al. invention, i.e., forcing large frozen chunks of meat to conform to the shape of the diverging rectangular cross section between the Peterson, et al. belts so that the large frozen chunks are mangled and mashed to produce completely flat, thin slices.

#### 1.1 Appellants' Claim 3

Appellants' claim 3 requires that the surfaces of two pliable, conforming belts between which the food items are pressed conform to and at least partially surround the food items in the step of pressing. However, contrary to this requirement, Peterson, et al. expressly teach, as discussed above, that the surfaces of the Peterson, et al. belts must allow the frozen material mashed in the Peterson, et al. process to expand outwardly to form the required thin slice product. (See, e.g., Col. 3:28-31)

## 1.2 Appellants' Claim 10

Finally, contrary to the requirements of Appellants' claim 10, Appellants respectfully submit that the mangling and mashing of frozen meat chunks as they are delivered through the single continuous diverging rectangular slot of the Peterson, et al. device constitutes only one application of pressure to the frozen chunks.

## **2.0 Appellants' Claim 1 Is Not Anticipated By The Disclosure Of Klaassen**

As with Peterson, et al., the Examiner contends that Klaassen teaches a method of treating foods by pressing meat with a pliable roller which conforms to and at least partially surrounds the meat. However, the disclosure of Klaassen contains no such teaching or suggestion.

Klaassen discloses two embodiments of a device for injecting a slab of meat with a brine solution. In one embodiment, a roller is used to mash the slab of meat into firm, uniform contact with an elongate lateral row of injection nozzles. The roller can have an elastic cover. However, it is clear from the Klaassen disclosure that neither the roller nor the elastic covering can be of a nature such that the roller conforms to and at least partially surrounds the shape of the meat product. Rather, the roller must be operable for mashing the slab to a predetermined uniform thickness. (See, e.g., Klaassen: Abstract; Col. 1:29-35; Col. 3: 9-16; and Col. 5:23-Col. 6:9.) Klaassen repeatedly states that the device must deform the slab of meat to a predetermined thickness and states at Col. 1:29-33 that the device must be effective for deforming the meat to a slab of both “predetermined thickness” and “certain width.”

As will therefore be apparent, the purpose of the Klaassen device cannot possibly be achieved if the roller simply conforms to the shape of each slab of meat which passes beneath it. Rather, once again, the requirements and objectives of the Klaassen device can only be achieved if the roller forces the slab of meat to conform to the shape of a flat gap of predetermined height between the roller and the lateral row of nozzles, not vice versa.

Concerning the elastic covering of the Klaassen roller, the Examiner contends in the final Office action mailed April 15, 2005 that: "Elastic materials were commonly known to be 'pliable' or flexible and would have inherently conformed to some degree to the meat." However, the Klaassen disclosure contains no such teaching or suggestion. Rather, Klaassen clearly teaches that, even with the elastic covering, the roller used in the Klaassen device must operate to deform and mash the slab of meat to a consistent predetermined thickness over and against the lateral row of spray nozzles. (See, Col. 3:9-15) Thus, the Klaassen disclosure suggests nothing more than that the elastic covering would likely be a thin sheath which is **stretched over the roller for tightness** and which would, e.g., facilitate cleaning and/or prevent sticking.

The Examiner further contends in the final Office action mailed April 15, 2005, that a flexible or pliable surface would be beneficial to Klaassen by allowing passage of large metal pieces which would otherwise have clogged the device. However, once again, the Klaassen disclosure contains no such teaching or suggestion. Rather, similar to the Peterson, et al. device, the gap between the roller and the spray nozzles of the Klaassen device can be adjusted in order to accommodate meat products of different sizes. (See, Col. 2:6-8)



As further confirmation that Klaassen neither discloses nor suggests the use of a pliable material which conforms to and at least partially surrounds the food items during the step of pressing, Appellants would also direct the Board's attention to the alternative embodiment of the Klaassen device shown in FIG. 4 and described at Col. 4:44-Col. 5:6. The alternative device achieves the same objectives required by Klaassen (i.e., deforming the meat to a desired set slab thickness over a lateral row of spray nozzles) using a rigid, converging top wall structure 42 positioned above the nozzles.

**3.0 Appellants' Claims 1-3, 6-7, 9-11, 27, 29, 31-34, 92-94, 101 And 103 Are Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et Al.**

As apparently acknowledged by the Examiner in the final Office action mailed April 15, 2005, Margolis neither discloses nor suggests pressing food items using a pliable material which conforms to and at least partially surrounds the food items during the pressing step. The examiner therefore relies on Peterson, et al. to provide this teaching. However, as set forth above, rather than providing such teaching, Peterson, et al. teach away from the use of a pliable material which conforms to and at least partially surrounds the food items. Thus, if for no other reason, all of Appellants' claims 1-3, 6-7, 9-11, 27, 29, 31-34, 92-94, 101, and 103 are patentable over Margolis in view of Peterson, et al.

In addition to this, however, neither Margolis nor Peterson, et al. disclose or suggest other features called for in these claims. Moreover, rather than suggesting that the disclosure of Margolis be combined with the disclosure of Peterson, et al., as relied upon by the Examiner in making not only this rejection but also in making all of the

Examiner's other rejections of Appellants' claims under 35 U.S.C. § 103, Margolis and Peterson, et al. clearly teach away from any such combination.

In complete contrast to the disclose of Peterson, et al., Margolis discloses a method of removing fat from meat patties. The primary goal of the Margolis method is "to provide a meat product, such as a ground meat (hamburger) patty, which possesses a reduced fat content and yet maintains the appearance, texture, and flavor of an untreated meat product." (Margolis Col. 2:31-34 and 42-47 (emphasis added)) The Margolis method comprises the steps of: heating the patty on both sides to an internal temperature (preferably about 45°C) sufficient to cause the fat within the patty to liquefy; applying pressure to the hot meat patty sufficient to cause at least a portion of the liquefied fat to exude from the patty; and then, following the cooking and pressing steps, injecting a liquid flavoring solution into the cooked and pressed meat patty. During the application of pressure to the cooked patty, it is "essential" that the elevated temperature of the patty be maintained so that the fat remains in liquefied form. (Col. 5:20-25)

In further contrast to the disclosure of Peterson, et al., Margolis teaches that the amount of pressure applied to the hot meat patty should be sufficient to exude a portion of the liquefied fat but not be so great as to cause the product to have an appearance which differs from that of a product which has not been subjected to the process. Once again, the purpose and objective of Margolis is to remove fat while retaining an appearance, texture, and flavor which are similar to the corresponding untreated product. (Col. 4:23-35) Thus, a low amount of pressure (e.g., 2.5-14 psi) is required. (Col. 4:36-52) Margolis teaches at Col. 5:14-19 that the pressure applied should be less than 12 psi. Further, Margolis teaches that, during pressing, the product should rest on a lower surface

which is either sloped or perforated so that the exuded liquefied fat flows away from the product. (Col. 5:20-42)

In attempting to combine the disclosures of Margolis and Peterson, et al., the Examiner latches on to the statement by Margolis at Col. 4, line 52-54 that: “Suitable methods for applying pressure to the patty include any method which can economically and efficiently apply such pressures to the patty.” However, in relying on this isolated statement, the Examiner completely ignores the context from which it is taken. What the Examiner apparently fails to realize is that Margolis’ general statement regarding methods which are capable of economically and efficiently applying such pressures to the patty can only refer to methods which are effective for economically and efficiently achieving the goals, objectives, and requirements of the Margolis fat removal process.

When the teaching of Margolis is properly read in context, it is inconceivable that one skilled in the art would even consider using the method and device of Peterson, et al. in the Margolis fat removal process. In fact, the disclosures, objectives, and requirements of Margolis and Peterson, et al. are diametrically opposed to each other. Appellants note, for example, that:

1. The products treated by Margolis must be heated/cooked sufficiently to maintain the fat therein in liquefied form whereas the chunks of meat processed by Peterson, et al. must be completely frozen. ( $-5^{\circ}\text{C}$  -  $-2^{\circ}\text{C}$ )

2. The objective of the Margolis process is to retain the shape of an untreated product whereas Peterson, et al. “mangle” and mash frozen chunks into thin slices of about 1/10th their original thickness.

3. The objective of the Margolis process is fat removal whereas the objection of Peterson, et al. is just the opposite. (See, e.g., Peterson, et al. Col. 1:19-26)

4. Margolis teaches that the pressing force must not exceed 14 psi and should not exceed 12 psi whereas the mangling and crushing force of Peterson, et al. must be considerably greater in order to mash thick frozen chunks of meat into thin frozen slices.

5. Margolis teaches that the product should rest on a sloped or perforated surface during pressing in order to drain liquefied fat away from the product whereas Peterson, et al. disclose only the use of a solid horizontal lower belt.

### 3.1 Appellants' Claims 3, 7, 9, 27, 29, and 31-34

In addition to the reasons set forth above, Appellants' claims 3, 7, 9, 27, 29, and 31-34 are patentable over the disclosures of Margolis and Peterson, et al. for the same reasons stated above in subsection 1.1 of this brief.

### 3.2 Appellants' Claims 10 and 93

In addition to the reasons set forth above, Appellants' claim 10 and 93 are patentable over the disclosures of Margolis and Peterson, et al. for the same reasons stated above in subsection 1.2 of this brief.

### 3.3 Appellants' Claims 11, 34, and 94

In addition to the reasons set forth above, Appellants' claims 11, 34, and 94 are also patentable over Margolis and Peterson, et al. in that claims 11, 34, and 94 call for the step of infusing a treatment liquid into a food item after the food item has been pressed

using a pliable material which conforms to and at least partially surrounds the food item during the pressing step. None of the references cited by the Examiner discloses infusing a food item with a treatment liquid after the food item has been pressed using a pliable material which conforms to and at least partially surrounds the food item.

### 3.4 Appellants' Claim 33

In addition to the reasons set forth above, Appellants' claim 33 is also patentable over the disclosures of Margolis and Peterson, et al. in that, contrary to the express requirements of claim 33, none of the references cited by the Examiner disclose pressing a food item using two layers of pliable material which conform to and at least partially surround the food item during the pressing step wherein each layer has a thickness of at least 1/2 inch.

### **4.0 Appellants' Claim 4 is Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et Al. And Further In View Of Keszler**

Appellants' claim 4 depends from claims 1, 2 and 3 and further provides that the food items be pressed between two layers of pliable material having surfaces which conform to and completely surround the food items in the step of pressing. Keszler teaches only a method of tenderizing, curing, and cooking a meat product wherein a piece of meat must be stuffed into a rigid, unpliant mold at a pressure sufficient to permanently shape the product to the configuration of the mold. (See, e.g., Keszler Abstract, Col. 2:34-41 and Col. 3:40-47) Thus, for all of the reasons already stated above regarding claims 1, 2, and 3, Appellants' claim 4 is patentable over the disclosures of Margolis, Peterson, et al., and Keszler.

In addition, Appellants respectfully submit that this attempt to combine Keszler with Margolis and Peterson, et al. is another instance of the improper use of hindsight to somehow piece together completely unrelated references using Appellants' own disclosure as a template.

In rejecting claim 4, the Examiner states that:

Margolis and Peterson, et al. do not cite completely surrounding the food. Keszler teaches a method of pressing meat by surrounding it in a mold (FIGS. 1-2). It would have been obvious to one of ordinary skill in the art to incorporate the mold pressing of Keszler into the invention of Margolis, in view of Peterson, et al., since all are directed to methods of pressing meat, since Margolis already included a pressing step which could be carried out by means which was economical and efficient (Col. 4, line 52), as well as pressure plates (Col. 5, line 6), and since the mold of Keszler would have provided a more economical and efficient means for pressing as compared to the manual pressing of Margolis.

Thus, as best as Appellants can understand it, it appears that the Examiner is contending that (1) it would be obvious to those skilled in the art in view of Peterson, et al. to line the piston 11 and mold cavity 10 of the hydraulic mold press shown in FIGS. 1 and 2 of the Keszler patent with a pliable material which will conform to the shape of a product and (2) it would then be obvious to use the resulting modified, lined hydraulic mold in the fat removal method taught by Margolis.

Contrary to the Examiner's attempt to add a pliable conforming liner to the piston and cavity of the Keszler hydraulic mold, Keszler expressly teaches that the mold must be "rigid." (Col. 3:18-23) In addition, whereas Margolis requires that the appearance of the product not be significantly changed, the Keszler device produces a dramatic change in the appearance of the product such that it must permanently take the shape of the mold. (Abstract, Col. 2:34-41, and Col. 3:40-47) Moreover, whereas Margolis requires that the pressure applied in the Margolis fat removal process must not exceed 14 psi and should

not exceed 12 psi, the compressive force applied by the Keszler apparatus is in the range of from 300 to 700 psi. (Col. 3:34-39)

**5.0 Appellants' Claims 5 And 30 Are Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et al. And Keszler And Further In View Of Morley**

Appellants' claims 5 and 30 call for pressing the food items between two layers of pliable material which conform to and at least partially surround the food items during pressing wherein one layer is a covering for a plunger and the other layer covers an interior portion of a cavity wherein the plunger is receivable for pressing food items. Morley adds nothing to the teachings of Margolis, Peterson, et al. and Keszler as discussed above. Rather, Morely merely discloses a continuous rotary hamburger grill having Teflon<sup>®</sup> liners. The grill includes an angled pressure plate for mashing balls or scoops of ground meat into patties as it presses them against a hot rotating grill plate. Consequently, for all the reasons set forth above, Appellants' claims 5 and 30 are clearly patentable over the disclosures of Margolis, Peterson, et al. Keszler, and Morley. Moreover, Appellants again respectfully submit that this is nothing more than an attempted hindsight reconstruction of Appellants' invention based solely on the disclosure of Appellants' application.

**6.0 Appellants' Claims 14, 18, 37, 40, 97 And 99 Are Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et Al., And Further In View Of Gould**

Appellants' claims 14 and 18, 37 and 40, and 97 and 99 depend, respectively, from (a) claims 1 and 11, (b) claims 27 and 34, and (c) claims 92 and 94 and further call for the step, following the step of pressing with a pliable material which conforms to and

at least partially surrounds the food items, of infusing a treatment liquid into the food items by impacting the food items while they are moved through a treatment liquid. Gould discloses only an apparatus for kneading food pieces comprising an inclined rotatable drum having spiral flites along the side wall thereof. Thus, for all of the reasons discussed above regarding claims 1 and 11, 27 and 34, and 92 and 94, Appellants' claims 14, 18, 37, 40, 97, and 99 are patentable over the disclosures of Margolis, Peterson, et al., and Gould.

Moreover, Appellants also respectfully submit that these cited references teach away from the Examiner's attempt to combine the disclosure of Gould with the teachings of Margolis and Peterson, et al. The Examiner's statement on page 3 of the final Office action that Margolis teaches dipping meat in an infusing liquid and "applying pressure during infusion" appears to be an attempt to say that Margolis suggests that the meat patties be impacted while adding the Margolis flavoring solution thereto. However, Margolis nether discloses nor suggests that the Margolis meat patties are or can be impacted in any way when they are dipped into the flavoring solution. Rather, Margolis simply states that: "it may be necessary to place the patty in the flavoring solution in a pressure chamber and subsequently increase the pressure within said chamber so as to cause the desired penetration." (Col. 6: 25-28) Moreover, contrary to the requirements of the Margolis process, the Gould apparatus is a vacuum tumbler, not a pressure chamber.



**7.0 Appellants' Claims 19, 20, 41, 42, And 100 Are Patentable Under 35 USC 103(a) Over Margolis In View Of Peterson, Et Al. And Gould And Further In View Of Ludwig**

Appellants' claims 19-20, 41-42, and 100 depend, respectively, from (a) claims 1, 11, 14, and 18, (b) claims 27, 34, 37, and 40 and (c) claims 92, 94, and 99 and include all of the limitations and requirements thereof. Appellants' claims 19, 41, and 100 add the requirement that the food items are impacted in the step of infusing by contacting with a rotating paddle. Claims 20, 42, and 100 further require that the paddle rotate in a direction opposite that of the spiral flites. Ludwig discloses only a meat massaging machine comprising a vacuum drum having internal rotating paddles. Thus, for all of the reasons discussed above regarding claims 1, 11, 14, 18, 27, 34, 37, 40, 92, 94, and 99, Appellants' claims 19-20, 41-42, and 100 are patentable over the disclosures of Margolis, Peterson, et al., Gould, and Ludwig. Further, for the same reasons discusses above regarding Gould, the disclosure of Ludwig is not properly combinable with the teaching of Margolis.

**8.0 Appellants' Claims 14-16 And 37-38 Are Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et Al. And Further In View Of Nordin**

Appellants' claims 14-16 and 37-38 depend, respectively, from (a) claims 1 and 11 and (b) claims 27 and 34 and therefore include all of the limitations thereof. The Examiner attempts to add the disclosure of Nordin to the teachings of Margolis and Peterson, et al. solely on the basis that Nordin discloses a submerged conveyor. Consequently, for all of the reasons set forth above regarding claims 1, 11, 27, and 34, Appellants' claims 14-16 and 37-38 are patentable over the disclosures of Margolis, Peterson, et al., and Nordin.

**9.0 Appellants' Claims 17, 39, And 98 Are Patentable Under 35 U.S.C. 103(a) Over Margolis In View Of Peterson, Et Al. And Nordin And Further In View of GB 957356**

Appellants' claims 17, 39, and 98 depend, respectively, from (a) claims 1, 11, 14, and 16, (b) claims 27, 34, and 37, and (c) claims 92, 94, and 97 and include all of the limitations thereof. The Examiner attempts to add the disclosure of GB 957356 to the teachings of Margolis, Peterson, et al., and Nordin solely on the alleged basis that GB 957356 teaches a method of treating meat by impacting it with flexible fingers. Therefore, for all of the reasons discussed above regarding claims 1, 11, 14, 16, 27, 34, 37, 92, 94, and 97, Appellants' claims 17, 38 and 39 are patentable over the disclosures of Margolis, Peterson, et al., Nordin, and GB 957356.

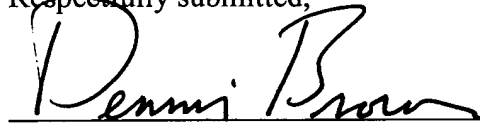
Further, Appellants respectfully submit that GB 957356 cannot properly be combined with the disclosures of Peterson, et al., Margolis, and Nordin. The Examiner states that: "GB 957356 teaches a method of treating meat by impacting it with flexible fingers (FIG. 4, # 5)." However, Appellants' claims 17, 39, and 98 do not merely state that the food items are impacted with flexible fingers but require that the food items be impacted with the flexible fingers while the food items are actually being conveyed through a body of treatment liquid by a submerged conveyor. In contrast, as clearly seen in the figures of GB 957356, the cords 5 employed in the GB 957356 device are little more than strings which have essentially no inherent stiffness and clearly would not be effective for any useful operation if submerged in liquid.

### VIII. CONCLUSION

In view of the above, Appellants respectfully submit that all of Appellants' pending claims are in condition for allowance. Appellants therefore request that all of the Examiner's rejections be reversed and removed and that all of the pending claims be allowed.

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Respectfully submitted,



Dennis D. Brown  
FELLERS, SNIDER, BLANKENSHIP,  
BAILEY & TIPPENS, P.C.  
321 South Boston, Suite 800  
Tulsa, OK 74013-3318  
Phone: 918/599-0621  
Fax: 918/583-9669  
E-Mail: [patents@fellerssnider.com](mailto:patents@fellerssnider.com)

#325633 v1

## APPENDIX

1 1. A method of treating food items having individual muscle protein fibers at least  
2 partially covered by a collagen protein layer, said method comprising the step of pressing  
3 said food items using a pliable material which conforms to and at least partially surrounds  
4 said food items during said step of pressing, wherein pressure is applied to said food  
5 items in said step of pressing using said pliable material in a manner effective for  
6 rupturing said collagen protein layer sufficiently to form an opening therethrough.

1 2. The method of claim 1 wherein, in said step of pressing, said food items are  
2 pressed between a first layer of said pliable material having a first surface and a second  
3 layer of a pliable material having a second surface.

1 3. The method of claim 2 wherein said first and said second surfaces conform to said  
2 food items in said step of pressing to at least partially surround said food items.

1 4. The method of claim 3 wherein said first and said second surfaces completely  
2 surround said food items in said step of pressing.

1 5. The method of claim 3 wherein said first layer is a covering for a plunger and said  
2 second layer covers at least an interior portion of a cavity wherein said plunger is  
3 receivable for pressing said food items.

1 6. The method of claim 3 wherein said food items are pressed in said step of  
2 pressing between a first continuous belt comprising said first layer and a second  
3 continuous belt comprising said second layer.

1 7. The method of claim 6 wherein said pressure is applied to said food items in said  
2 step of pressing by contacting said first continuous belt with at least a first roller which  
3 urges said first continuous belt toward said second continuous belt and by contacting said  
4 second continuous belt with at least a second roller which urges said second continuous  
5 belt toward said first continuous belt.

1 9. The method of claim 2 wherein said food items are boneless product pieces and  
2 said pressure applied in said step of pressing is in the range of from about 2 to about 100  
3 psig.

1 10. The method of claim 1 wherein said step of pressing comprises a series of at least  
2 two applications of pressure to said food items using said pliable material.

1 11. The method of claim 1 further comprising the step, following said step of  
2 pressing, of infusing a treatment liquid into said food items through said opening.

1 14. The method of claim 11 wherein said step of infusing comprises impacting said  
2 food items while moving said food items through said treatment liquid.

1 15. The method of claim 14 wherein, in said step of infusing, said food items are at  
2 least partially suspended in an amount of said treatment liquid of at least one pound of  
3 said treatment liquid per pound of said food items.

1 16. The method of claim 14 wherein, in said step of infusing, said food items are  
2 continuously moved through said treatment liquid by a submerged conveyor.

1 17. The method of claim 16 wherein said food items are impacted in said step of  
2 infusing by contacting with flexible fingers as said food items are carried through said  
3 treatment liquid.

1 18. The method of claim 14 wherein, in said step of infusing, said food items are  
2 continuously moved through said treatment liquid by rotating spiral flites.

1 19. The method of claim 18 wherein said food items are impacted in said step of  
2 infusing by contacting with at least one rotating paddle.

1 20. The method of claim 19 wherein said paddle rotates in a direction opposite that of  
2 said spiral flites.

1 27. A method of treating food items, said food items comprising muscle protein and  
2 said method comprising the step of pressing said food items between a first layer of a  
3 pliable material having a first surface and a second layer of a pliable material having a

4 second surface, wherein said first and said second surfaces conform to and at least  
5 partially surround said food items in said step of pressing and wherein an amount of  
6 pressure is applied to said food items in said step of pressing in the range of from about 2  
7 to about 120 psig.

1 29. The method of claim 27 wherein said food items are boneless product pieces and  
2 said amount of pressure applied in said step of pressing is in the range of from about 2  
3 about 100 psig.

1 30. The method of claim 27 wherein said first layer is a cover for a plunger and said  
2 second layer covers at least an interior portion of a cavity wherein said plunger is  
3 receivable for pressing said food items.

1 31. The method of claim 27 wherein said food items are pressed in said step of  
2 pressing between a first continuous belt comprising said first layer and a second  
3 continuous belt comprising said second layer.

1 32. The method of claim 31 wherein said pressure is applied to said food items in said  
2 step of pressing by contacting said first continuous belt with at least a first roller which  
3 urges said first continuous belt toward said second continuous belt and by contacting said  
4 second continuous belt with at least a second roller which urges said second continuous  
5 belt toward said first continuous belt.

1 33. The method of claim 27 wherein each of said first and said second layers has a  
2 thickness of at least one-half inch.

1 34. The method of claim 27 further comprising the step, following said step of  
2 pressing, of infusing a treatment liquid into said food items.

1 37. The method of claim 34 wherein said step of infusing comprises impacting said  
2 food items while moving said food items through said treatment liquid.

1 38. The method of claim 37 wherein, in said step of infusing, said food items are at  
2 least partially suspended in an amount of said treatment liquid of at least one pound of  
3 said treatment liquid per pound of said food items.

1 39. The method of claim 37 wherein said food items are impacted in said step of  
2 infusing by contacting with flexible fingers as said food items are moved through said  
3 treatment liquid.

1 40. The method of claim 37 wherein, in said step of infusing, said food items are  
2 continuously moved through said treatment liquid by rotating spiral flites.

1 41. The method of claim 40 wherein said food items are impacted in said step of  
2 infusing by contacting with at least one rotating paddle.



1 42. The method of claim 41 wherein said paddle rotates in a direction opposite that of  
2 said spiral flites.

1 92. A method of treating food items having muscle protein, said method comprising  
2 the step of pressing said food items using a pliable material which conforms to and at  
3 least partially surrounds said food items during said step of pressing and wherein an  
4 amount of pressure is applied to said food items in said step of pressing of at least 2 psig.

1 93. The method of claim 92 wherein said step of pressing comprises a series of at  
2 least two applications of pressure to said food items using said pliable material.

1 94. The method of claim 92 further comprising the step, following said step of  
2 pressing, of infusing a treatment liquid into said food items.

1 97. The method of claim 94 wherein said step of infusing comprises impacting said  
2 food items while moving said food items through said treatment liquid.

1 98. The method of claim 97 wherein, in step of infusing, said food items are  
2 continuously moved through said treatment liquid by a submerged conveyor and wherein  
3 said food items are impacted in said step of infusing by contacting with flexible fingers as  
4 said food items are carried through said treatment liquid.

1 99. The method of claim 94 wherein, in said step of infusing, said food items are  
2 continuously moved through said treatment liquid by rotating spiral flites.

1 100. The method of claim 99 wherein said food items are impacted in said step of  
2 infusing by contacting with at least one rotating paddle which rotates in a direction  
3 opposite that of said spiral flites.

1 101. A method of treating food items having muscle protein, said method comprising  
2 the step of pressing said food items using a pliable material which conforms to and at  
3 least partially surrounds said food items during said step of pressing and wherein an  
4 amount of pressure is applied to said food items in said step of pressing in the range of  
5 from about 2 to about 120 psig.

1 103. The method of claim 101 wherein said food items are boneless product pieces and  
2 said pressure applied in said step of pressing is in the range of from about 2 to about 100  
3 psig.

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